

REMARKS

The Office Action dated August 15, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 4 and 5 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added and no new issues are raised which require further consideration or search.

Claims 1-10 are currently pending in the application. Claims 1, 4 and 5 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 2-3 were previously cancelled. Claims 6-10 were previously withdrawn in relation to a restriction requirement. No new matter has been added. Therefore, claims 1, 4 and 5 are respectfully submitted for consideration.

As a preliminary matter, Applicants thank the Examiner for the courtesy extended in conducting an in-person interview on January 8, 2009.

The Office Action rejected claims 1, 4 and 5 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In addition, the Office Action indicated in the “Response to Argument” section that claim 1 does not have patentable weight for lacking means-plus-function claim recitations (see page 4 of the Office Action). On page 5 of the Office Action, it was indicated that the arguments presented are outside the scope of what is claimed. Applicants respectfully traverse this rejection.

Regarding the §112, second paragraph, rejection of claims 1, 4 and 5, it was alleged that “portion” is not clear and is not supported by the specification. Applicants have discussed this rejection during the course of the above-noted interview, and, as a result, had reached an agreement as to an amendment to claims 1, 4 and 5, which would overcome the rejection. Applicants have amended claims 1, 4 and 5 to reflect the agreed upon claim amendments by amending the charge pressure setting processing portion to instead recite a “control section comprising a charge pressure setting processor.” Accordingly, claims 1, 4 and 5 are in compliance with §112, second paragraph. Withdrawal of the rejection is kindly requested.

The Office Action rejected claims 1, 4 and 5 under 35 U.S.C. §102(b) as allegedly being anticipated by Takizawa (U.S. Patent No. 6,120,711) (“Takizawa”). The Office Action alleged that Takizawa discloses or suggests every claim feature recited in claims 1, 4, and 5. Applicants respectfully traverse these rejections for at least the following reasons.

Claim 1, upon which claims 4 and 5 are dependent, recites a molding machine, which includes an actuator driven by oil supplied thereto, and an accumulator disposed along an oil passage which supplies oil to the actuator. The molding machine further includes a drive pressure sensing section which senses the drive pressure for driving the actuator, and a charge pressure sensing section which senses the charge pressure of the accumulator. The molding machine further includes a charge pressure setting processing control section comprising a charge pressure setting processor which sets the upper limit

of the charge pressure on the basis of the pressure difference between the minimum sensed charge pressure of the charge pressure which is sensed and the maximum sensed drive pressure of the drive pressure which is sensed.

As will be discussed below, Takizawa fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Takizawa discloses a method of controlling an accumulator connected to an oil hydraulic circuit of an injection molding machine. A charge start point and a charge end point for the accumulator are set for each of the molding cycles or for each of the steps constituting a single molding cycling. Takizawa further discloses that, during molding, control is performed such that the charge start point and the charge end point are synchronized with each molding cycle. (see Takizawa at Abstract).

Applicants respectfully submit that Takizawa fails to disclose, teach, or suggest, all of the elements of the present claims. For example, Takizawa fails to disclose, teach, or suggest, at least, “a charge pressure setting process portion which sets the upper limit of the charge pressure on the basis of the pressure difference between the minimum sensed charged pressure of the charge pressure which is sensed and the maximum sensed drive pressure of the drive pressure which is sensed,” as recited in independent claim 1.

Referring to claim 1 of the present application,

an upper limit of a charge pressure is =
Min. sensed charge pressure – Max. sensed drive pressure.

Using variable parameters to represent the above expression,
 $CPH = CP_{min} - DP_{max}$.

Referring to FIG. 3 of Takizawa,

(S2) A maximum load pressure is obtained via measurement Pop.

(S3) A differential pressure Pd of the servo valve is calculated

$$Pd = \{(v \cdot S) / (C \cdot A)\} 2.$$

(S4) A charge pressure is obtained

$$Pc = Pop + Pd.$$

None of the above calculations performed by Takizawa could be interpreted as determining the upper limit of charge pressure, as recited in claim 1. Takizawa discloses a charge pressure (Pc) of the accumulator, a load pressure (Po) sensed by the pressure sensors 23 and 24, a maximum load pressure (Pop) obtained from load pressures measured during a single cycle of molding, and a differential pressure (Pd) of the servo valve.

Referring back to the above-noted interview, the Examiner and her Supervisor noted that the expression in FIG. 3 of Takizawa ((S4) $Pc = Pop + Pd$) may include a negative value for the value Pd, which would in turn be comparable to a “difference” between two pressures, as recited in claim 1. Applicants disagree with this alleged interpretation of Takizawa.

Takizawa discloses that the symbol “Pc” denotes a charge pressure stored in an accumulator 2, symbol “Pop” denotes a maximum load pressure (i.e., the maximum load added to an injection cylinder 3), and symbol “Pd” denotes a differential pressure of a servo valve 4 (i.e., a valve loss pressure) (see column 3, lines 14-46 of Takizawa). In the

expression $P_c = P_{op} + P_d$, the pressure “ P_c ” is required to be higher than the maximum load pressure “ P_{op} ” from the differential pressure “ P_d ” and needs to be stored in the accumulator 2 as the charge pressure “ P_c .” Therefore, the differential pressure “ P_d ” of Takizawa can not be a negative value since “ P_c ” has to be a larger pressure than “ P_{op} .” In addition, the expression in FIG. 3 of Takizawa ((S3) $P_d = \{(v \cdot S) / (C \cdot A)\}^2$) does not include a negative value for the differential pressure “ P_d .”

Takizawa fails to disclose, teach, or suggest “a charge pressure setting process portion which sets the upper limit of the charge pressure on the basis of the pressure difference between the minimum sensed charged pressure of the charge pressure which is sensed and the maximum sensed drive pressure of the drive pressure which is sensed,” as recited in independent claim 1. As may be observed from claim 1, the charge pressure upper limit is set based on the minimum sense charge pressure. Takizawa does not provide such a function of setting a charge pressure based in part on a charge pressure. Takizawa also does not disclose calculating a difference to arrive at the upper limit of the charge pressure.

Therefore, for at least the reasons discussed above, Takizawa fails to disclose, teach, or suggest, all of the elements of independent claim 1. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 4 and 5 depend upon independent claim 1. Thus, Applicants respectfully submit that claims 4 and 5 should be allowed for at least their dependence upon claim 1, and for the specific elements recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1, 4, and 5 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Petition for Extension of Time
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